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Introduction to Instructional Technology

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My Philosophy of Instructional Design

Technology is a Shared Science

ABSTRACT

Technology is a shared science. In order for the technology experience to be efficient and effective, in a school environment, the whole school has to participate in the technology experience. Stakeholders (Administrators, Teachers, Parent, Students, and Community) are all needed in the process of designing and implementing technology in the school. Each member has a vested interest in the learners to achieve, so that learners may use technology for their own advancement beyond the school experience.

I have been a Librarian for 29 years, for the last 18 years I served as a Library Media Specialist in a public school district. My district has decided to lay off its 3 Librarians, and I have decided to go back to school and pursue my dream of becoming an Instructional Designer. Under the direction of Dr. I-Chun Tsai and Dr. Cheryl Ward I am learning so much on how to infuse technology into the teaching and learning environment. Now I am confident and more competent to begin my career as a Technology Facilitator.

In this paper, I will explain how Instructional Technology is a natural career change for me. Librarians like Instructional Designer, locate sources for information, acquire those sources, organize them in a way to appeal to the learners, and assist learners in utilizing the sources to best fit their

individual needs.

LEARNERS

Students must master core subjects and applied skills coupled with the use of technology to participate and/or compete in the global market economy and to manage their own destinies in the workplace and community.

Digital-Age youth are entrenched with technology. Whether technology takes place in the school or outside of the school, young people are plugged in and turned on. Youth have a natural knack for using technology for communication, innovation, research, problem solving and critical thinking (Facebook, iPhone, Wikipedia, Google, etc.). Children are becoming more and more detached from the institution of school, because of the lack of technology used in teaching, Students aren't receiving education to meet their needs (according to organizations like Partnership for 21st Century Skills). There appears to be a great lag in education, "less than half of College Students are able to narrow a search or adapt Web-based material for different audiences" (Educational Testing Services' iSkills data). Furthermore, schools are not preparing young people for adult careers, and even bigger, schools are not preparing young people for competing in a world marketplace.

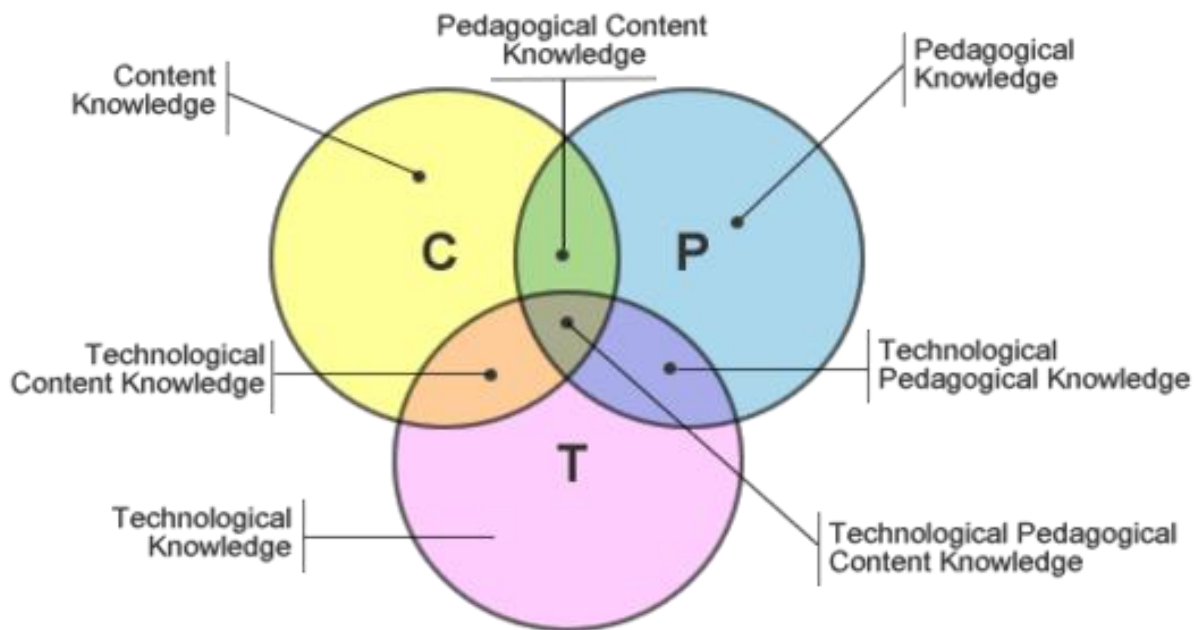
Though schools are providing technology, schools are not yet prepared for how to integrate the technology into the curriculum. For this reason, the International Society for Technology in Education (ISTE) and the National Council for Accreditation of Teacher Education (NCATE) have devised standards (NETS-T, NETS-S, NETS-FT and NETS-TL) to assist the process. The ISTE Standards are a necessity for technology to be implemented and used in order to have an efficient and effective impact on Students, Teachers, and the community at large. These standards serve as a guide for Administrators, Teachers, and Students to foster safe and relevant technological usage for the enrichment of digital age learners. No matter what technology is currently available (i.e., internet connections, smart boards, ipads, projectors, computers and software programs) the need to use the technology must have a purpose and objective to aid in the process of meeting the "standards".

School Districts are able to hire Technology Leaders and Facilitators to provide Professional Development for Teachers, to help design, develop, and implement technological experiences for the Students and Educators as an ongoing endeavor. If the district and/or school plans line up with the standards spelled out in NETS, grant funding is available to improve the infrastructure for technology in the school(s). The Technology Facilitator/Leaders support Teachers' needs for technology use in the classroom, designing digital frameworks to meet teacher pedagogy and subject matter content providing technology tools for Student-Centered

Learning.

ISTE NETS Standards were necessary to implement the use of technology as a teaching and learning tool to enhance core curriculum. Many school districts and Teachers have been apprehensive to have technology in the school environment for fear of losing control and being exposed as inexperienced or novice. For these reasons, technology as a teacher and learning tool was denied in the past, but can no longer be denied. School districts now have standards directly connected with content for each grade level being taught. Most School districts are finding Lead Teachers to pair up with others using technology. We are still in the beginning phases in most schools, yet we are in a race against time. Technology changes daily, even by the minute.

TPACK



TEACHERS

I am currently working with a private school, Bethlehem Christian School, as their Instructional Designer. The biggest hurdle I've had thus far, is convincing the teaching staff that technology must be a daily part of their instruction. I presented them with the TPACK Model. I explained:

TPACK stands for Technological Pedagogical and Content Knowledge.

Teachers have Content Knowledge, Teachers know the subject matter which they teach. The Teachers at Bethlehem have taught for over 5 years (I refer to Teachers whom have taught for over 5 years as "Seasoned Teachers". As a Seasoned Teacher, you have developed Pedagogical knowledge. In other words, Seasoned Teachers know strategies and styles

of teaching that have an impact on their Students. Now is the time to infuse technology to enhance their lessons. I assure them that my role will be to help them find the best technologies available that will work best for them. I let them know that this year we will develop Technological Knowledge. Together, we will explore technologies that can present the content of their subject area that will also work best with their method of teaching to obtain the learner outcomes they desire from their Students.

Bethlehem is starting from scratch. First order of business, is to get the classroom Internet access. The school does have digital cameras and newer computers. I will start with a workshop using digital photography. All of the Teachers are familiar with Microsoft Word, so I will have the Teachers take pictures of their Students engaged in classroom activities. Then, I will have the Teachers use the digital photos in newsletters to go home with each Student. I will also have the Teachers advertise the school website in the newsletters. I will work on the schools website linking the Teachers to their own classroom webpages, and incorporate the digital photos with weekly news from the classroom. From there, the Teachers will advise me of what to put on their webpages.

As soon as we are connected to the Internet, I will instruct the Teachers on Wikispaces. This will give them the opportunity to update their own webpages and used their images as well as multimedia. We will explore together Assessment and Evaluation tools they can use for their students.

Technology is a Shared Science. As the Teachers find web tools they can share with everyone.

The Principal is allowing me 15 minutes to share ideas and demonstrate technological tools during the weekly Teachers' Meetings. I will have to work with the Principal for more Professional Development time with the Teachers. It is essential that I work with the Teachers on their website and instruct to successful infuse technology in their daily instruction. The Teachers are the experts in their content area and subject matter. The Teachers know how to teach their Students. They know their Students learning styles, strengths, and weaknesses. As the Teacher share their objectives with me, I will be able to lead them to technology that will help, enhance instruction, and provide activities for their Students. This process will prevent technocentrism. It is so easy to get stuck on the power of the technology. Involving more people in planning for the technology experiences of the Students keep the goal in focus.

LIBRARIAN/TECHNOLOGY FACILITATOR

The Librarian has the role of locating, evaluating, acquiring, organizing, and managing information sources for the school. The Internet proves to be an efficient and effective source for information delivery in a library, for both

Librarian and patrons. In a school library setting, the Librarian has the role of “project facilitator in a digital world” guiding Teachers and Students through the research process on the internet for scholarly and useful information that can be used to address their needs.

With more and more information available online, libraries have to rethink the design of the library. “ Students need the ability to connect their laptops, iPods, and iPads to access information that can be downloaded immediately to their personal files. Librarians must supervise this process to ensure that learners use discernment in the information they find, and also Students have to be taught responsibility for the information they find and use.

Information is so readily available through the internet, that leaders and learners naturally become self-learners and constructivist in thought, using the information gained to store and use in more creative ways. For example, a Student looks for information on recycling, and discovers recycling branches off to composting. Composting leads to soil that can be used for growing things. The Student not only recycles at home and school, but now is leading her Girl Scout troop in composting, and using the compost soil to sell at the local community garden. Real scenario. I do a lesson on recycling and supply my Students with websites to visit for more information. One of the websites I give to my Students on a handout to share at home is <http://www.clemetzoo.com/conservation/environment.asp>.

I always send home a letter to parents (our technology at school is limited) encouraging parents to visit websites with their children at home. A parent approached me to let me know that because of me, her daughter is leading an effort for her Girl Scout troop to compost and use the compost as a fund raiser by selling the compost at the local community garden. These experiences reassure me that Students are using the information and technology skills in my classroom to meet real world problems. Information proved to be very powerful for the Girl Scouts.

Every now and again, I get the opportunity to see the results of teaching with technology.

As Librarian at the high school, in the early 90's, I was in charge, of new computer equipment delivered to the school. I had to instruct Administrators, Teachers, Support Staff and Students on Microsoft Office, the Internet, and Outlook Email. We started with two computer lab in the library and a Distance Learning Classroom in the library. I had Students taking foreign languages via the Distance Learning Classroom. German, Russian, and Japanese were the languages offered. Only a handful of Students went beyond 3 years in the foreign language program. The ones that did, went on to use their foreign language in their careers. A Student who took 3 years of Japanese, now works for the government in some secret capacity. Another Student who took 3 years of German, has his own restaurant doing well. All of the Students continue to use their language on

social networks and blogs. Unfortunately, the school made the mistake of dismantling the program due to low enrollment. What a shame.

In 2005, Illinois School Library Media Association, did a study which proved that schools with well-staffed libraries; Librarian, Library Assistant, and Staff, performed best on standardized test. The Association gathered data from 657 schools in Illinois, comparing 5th through 11th Graders, realized the schools with better libraries (libraries with online catalogs and databases) student population has the greatest Information Literacy Skills and showed a 6.2% improvement on ACT scores. Students who visit the school library more frequently received improved reading and writing scores on test. The Association also noted that print media usage was down, however, electron usage of media (databases and the Internet) showed growth. Pinpointing Libraries with Technology as the key.

TOOLS

Over the last 5 years, there has been a boom in sales for books online (eBooks), some of the newer trade books are only available online as well as music recordings. In the 2 years text books have been available online. I anticipate that within the next 2-5 years, text books will only be available online. The school libraries are starting to transition to online (eBooks), mainly to keep Students interested in reading. This digital age of Students

like the idea of ipads for reading, the interest is there, and the libraries particularly school libraries need to move towards the trend.

“Advances in electronic publishing and content digitization are already having a profound effect on the way Students and academics conduct research and publish findings. Researchers and scholarly publishers are collaborating on new ways to produce content in the digital environment. First used in the sciences and extending now to the humanities, e-research initiatives (online journals, electronic research communities, e-books) represent a rapidly growing component of the evolution from printed artifacts to digital culture.”

As a Librarian, I have to maintain information resources for my Students, inclusive of all subject matter. I must stay abreast of what is good information on the World Wide Web, popular database programs, software programs, eBooks, eMagazines, to name a few. It is a fact, that good library programs raise test scores. Good Librarians promote Information Literacy. Good schools promote their school library, and support their school library -- equipping them with Librarians and Library Staff and a budget to accommodate computers connected to the internet, subscriptions to databases, software, eBooks, digital cameras, scanners and other peripherals devices.

LEGAL ISSUES

Legal and Ethical issues, Health and Safety practices, and Security and Privacy Protection of computer technology are major concerns in the school setting. As a Librarian in a school district, I face these issues frequently. I think these laws become issues when people don't take them seriously or when people are just unaware of the law(s). As a Librarian I have always had to remind Teachers and Students of the copyright laws. As Technology Facilitator, I have to make sure that Students and teaching staff understand the copyright laws of technology as well. I plan to cover these laws with Teachers and remind them that Students mimic what they do as Teachers. I will explain the importance of Teachers behaving responsibly when it comes to technology use with the Internet and multimedia.

The United States Copyright laws, under Title 17 of the United States Code, Chapter 5 and Chapter 9, protect intellectual property of authors of software and information published on the internet, so that people don't steal the author's designs and knowledge for personal use. This is an activity I am constantly involved in as Librarian, so I'm sure this will be even more stressful to monitor as Technology Facilitator. I will make sure the Teachers are aware of the laws and I will provide links to helpful websites to serve as a guide for copyright.

<http://www.copyright.gov/title17/>

<http://www.lib.sfu.ca/help/publication-types/online-images>

<http://istudy.psu.edu/FirstYearModules/CopyrightPlagiarism/CopyFairUse.html>

<http://www.umuc.edu/library/libhow/copyright.cfm>

<http://www.lib.berkeley.edu/MRC/Copyright.html>

The Disabilities Education Act (IDEA) Accessibility Standard Section 612a clearly specifies accommodations for Students with disabilities. Bethlehem Christian School is in compliance with building codes for the disabled. I have to make sure that once we set up a computer lab, it is wheelchair accessible.

The Family Educational Rights and Privacy Act (FERPA) of 1974, was written to protect Students from exploitation in public records. Teachers have a responsibility to protect Students' records. Challenges have heightened with the use of remote and portable device usage. Common threats to the security and/or privacy issues are careless users. Teachers obtain leave emails open and sometimes grade books. As Technology Facilitator, I have to make Teachers aware of these protection and security laws. I will also set up the software programs for inactivity log out after 20 minutes for additional protection.

CONCLUSION

Education is in transition, Schools can no longer teach learners in a vacuum. With technology, the entire world is accessible for the Teacher and the Learner. We, as a nation, have become global minded. It's only natural that we teach learners to be global minded as well. We are no longer confined to our time and space, we have the world at our fingertips.

Educations must transition toward technology to meet global demands for leaders, innovators, and experts in the field (whatever the field may be...). If the United States wishes to remain the leaders, we must equip our youth, which are our tomorrow, to be technological knowledgeable as well as knowledgeable in the key areas of their interest. We must give them the best education with the best that we have so that our youth can excel in any walk of life they choose.

This means that Stakeholders must change as well. School Administrators and Teachers must be ready, actually, should have been ready, to meet the needs of our digital age youth. Business communities have advanced with technology, and those that have not, are seeking individuals who can advance them with technology. Parents and Children have a right to receive the best education has to offer the children.

As a Librarian and Instructional Technologist, I plan to stay ahead of the

game, and take my school with me. I can't do it alone, it's too vast of a field. Technology is a Shared Science. I will share with my school community what I know, in turn, we will share what we learned with one another. You can teach an old dog new tricks😊

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